

# KPI DEFINITION

## DATACENTERS & THE DIGITAL ECONOMY

Datacenters (DCs) are a digital economy's physical core infrastructure, providing IT services centered around data, and built with commodity components to benefit from the economies of scale. The ongoing global digital transformation and the slowdown in conventional growth in silicon-based digital platform capacity and capability will not only boost the number and size of datacenters, but also their energy consumption and carbon footprint.

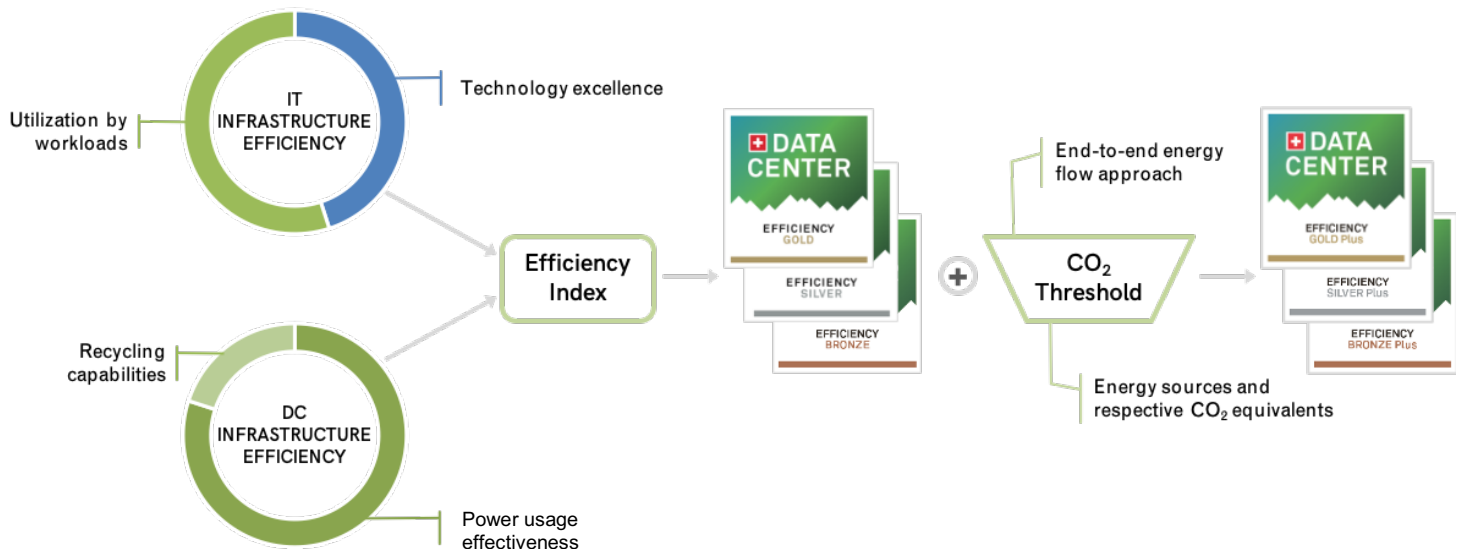
## THE LABEL

This label creates transparency about energy efficiency and the end-to-end climate impact of datacenter operations. With metrics and ratings that award the best in class in datacenter technologies, this label promotes sustainability for the backbone of a digital economy.

## KPIs INVOLVED

The label awards applicants on the following three KPIs:

- IT INFRASTRUCTURE EFFICIENCY
- DC INFRASTRUCTURE EFFICIENCY
- DC CARBON FOOTPRINT



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## IT INFRASTRUCTURE EFFICIENCY

### IT INFRASTRUCTURE EFFICIENCY

This KPI primarily captures the efficiency of the primary IT components including compute, storage, network, and their utilization. We break down contributions from storage into per-server local storage, captured in the server efficiency index, and DC-level shared storage measured separately. The KPI also includes quality ratings for server power supplies and rack PDUs, as well as operating temperature classification for the various components. Utilization refers to busy cycles in execution resources, including CPUs and discrete accelerators, fraction of capacity populated in memory and storage components, storage compaction, network load and occupancy in network components.

### IT INFRASTRUCTURE EFFICIENCY INDEX

#### SERVER

INCLUDING LOCAL STORAGE

#### NETWORK

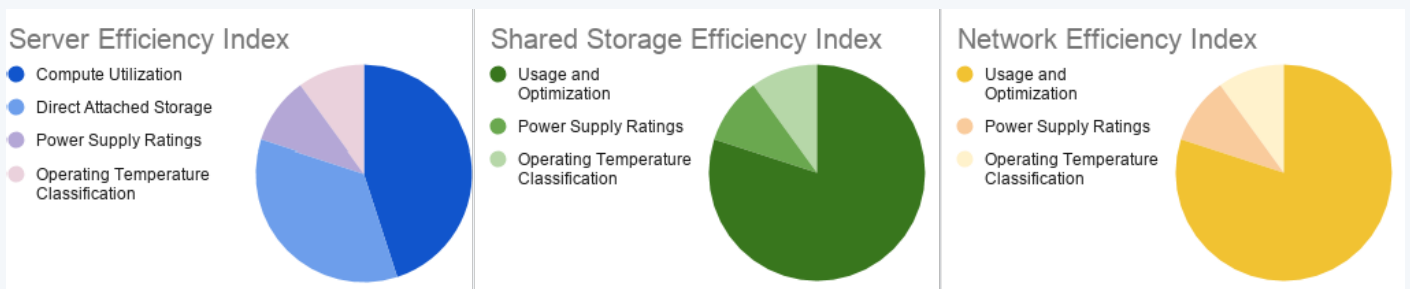
#### SHARED STORAGE

#### RACK



### A BREAKDOWN OF EFFICIENCY INDICES

Server, shared storage, and network efficiency indices are further broken down into contributions from subcomponents.



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## DC INFRASTRUCTURE EFFICIENCY & CO<sub>2</sub> FOOTPRINT

 DATA  
CENTER

EFFICIENCY

### DC INFRASTRUCTURE EFFICIENCY

This KPI captures the efficiency of all equipment (referred to as DC infrastructure) used to host IT infrastructure that consume energy. This equipment includes – but is not limited to – the electrical, cooling and heat recycling components, and equipment for physical security.

**POWER USAGE  
EFFECTIVENESS**

**RECYCLING  
CAPABILITIES**

### PREMIUM VARIANTS | CO<sub>2</sub> FOOTPRINT

To minimize the impact on the environment and indicate higher levels of sustainability, the premium labels use the carbon footprint KPI which in addition to DC energy efficiency captures the sustainability of the DC's ingress energy sources. The KPI then calculates the end-to-end carbon emissions of the DC and reports it in kilograms per kWh of consumed electricity.

 DATA  
CENTER

EFFICIENCY  
GOLD

**CLEAN INGRESS  
ENERGY**

**END-TO-END CARBON  
EMISSIONS**

### VALIDITY

To ensure sustained energy efficiency in the datacenter, the label must be recertified after three years. Moreover, the opportunity to reach a higher label, if further improvements and initiatives have been taken, is encouraged.

For further information, please contact us at [info@sdea.ch](mailto:info@sdea.ch).